



Corps of Engineers

**Special points of interest:**

- ◆ Ortona Lock undergoes scheduled maintenance
- ◆ Notify FWC when discovering a dead manatee
- ◆ Acoustic array installed at Ortona Lock
- ◆ Low water reveals artifacts
- ◆ SFOO conducts Boat Course for USGS

**Inside this issue:**

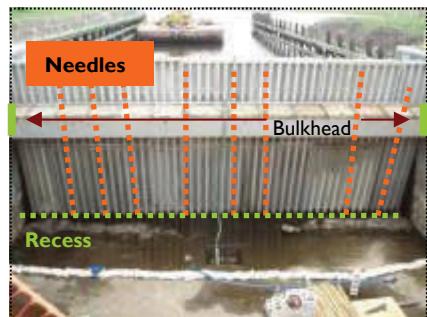
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## Ortona Lock Gets Drained

Every four to five years navigation locks on Lake Okeechobee and the Okeechobee Waterway require inspection and routine maintenance. Before locks can be inspected and serviced they need to be de-watered or drained. The first step in dewatering is to isolate the lock from surrounding waters. To accomplish this feat steel bulkheads and a series of partitions, called needles are placed within concrete recesses of the lock.



Divers are used during this phase to make sure the recesses are clear of debris and help align the needles for proper placement. Once the bulkheads and needles are in place dewatering (pumping out of water) can begin. On June 4, Ortona Lock located on the Caloosahatchee River (part of the Okeechobee Waterway) underwent this procedure. In less than 24 hours two 12-inch hydraulic pumps emptied all but a few inches of water from the lock.

The remaining water was intentionally left so fish that became trapped in the drained lock could survive until they were netted by Corps staff and transferred into a metal tub. The tub was then raised from the lock by crane and the fish were emptied back into the river.



The catch of the day was a Snook weighing approx. 30 lbs and measuring nearly 3-feet in length.

Over the next several weeks work crews will replace rubber seals and lubricate various moving parts on the lock. Existing manatee protection screens will be repaired and a new Manatee Protection System will be installed on the lock gates (see article pg. 4 ).



Ortona Lock is scheduled to reopen to navigation on July 20.

## Death of a Manatee

Manatees are slow moving aquatic mammals that spend most of their time in warm shallow waters feeding on sea grasses and other aquatic vegetation. Throughout the year in Florida, they can be regularly seen lumbering about in both fresh and salt water. Sadly, a number of dead manatees turn up dead in local waters each year. As of June 1, 2007, five manatee fatalities have been observed in the Okeechobee Waterway.

When a dead manatee has been discovered it should be reported to the Florida Fish and Wildlife Conservation Commission (FWC). Generally the FWC will alert a law enforcement officer to travel to the site of the dead manatee and confirm its existence. Corps biologists often times are contacted when manatees show up in the Okeechobee Waterway. After a dead manatee and its location have been confirmed FWC will dispatch staff members to retrieve the carcass. The dead manatee is then transported to the FWC Marine Mammal Pathobiology Lab in St. Petersburg to undergo necropsy.



Necropsy: the process of dissecting a dead animal to determine the cause of death.

The photo shows a dead manatee being maneuvered onto a carcass trailer for transport to the Marine Mammal Pathobiology Lab. Corps biologist, Tyson Zobrist (left) hauled the manatee by boat from the Moore Haven Lock to the Alvin Ward boat dock so it could be easily retrieved by FWC.

To report a dead manatee call 1-888-404-FWCC

## Toe Ditch Update



HHD rehabilitation reach boundaries identifying reaches 1, 2, 3 and 7 as the priority areas for strengthening.

Reach 1 covers approximately 23 miles.

### Progress of Toe Ditch in Reach I:

- 6000' completed from Sand Cut northward
- 2600' completed from Canal Point northward
- 5200' to be completed from Canal Point southward



## Drought Facts

- Lake Okeechobee was at 8.94 feet on May 30, surpassing the record low mark of 8.97 feet during the 2001 drought.
- Rainfall directly over the lake has been sparse enough to qualify this drought as a one-in-100-year event.
- Only 40 inches of rain have fallen on the region in the past 18 months, about half the average amount.
- Yesterday's lake level was 8.83 feet. The average level should be about 13 feet this time of year.



Dry Lake Bed Near Torry Island, May 17, 2007

## Drought Rewards Archaeologists

A statewide drought that has bared portions of Lake Okeechobee's bottom also has been a boon to archaeologists, exposing human remains, boats and other finds that could date back hundreds of years. Thousands of pieces of pottery, five boats and scores of human bone fragments have been discovered as the lake — the second-largest freshwater one in the continental U.S., behind Lake Michigan — reached a historically low level. It is the first time in many years that some areas have been exposed, prompting archaeologists to scour the lakebed. "Right now, it's just a rush to identify things before they go back under water," said Chris Davenport, the archaeologist for Palm Beach County.



More than 17 sites have been identified in Palm Beach County's portion of the lake in the past three months. They are scattered over miles of terrain. The bone fragments range from a couple inches long to about 6 or 8 inches, Davenport said. "It looks like it's part of one of the American Indian settlements that were there — people that were intentionally interred [buried] at some point," state archaeologist Ryan Wheeler said.

The state has alerted the Seminole and Miccosukee tribes about the bones, but no decision has been made on their fate.

No studies have been done on the human remains, but Wheeler said they likely were 500 to 1,000 years old, possibly older. Davenport said an examination of the style of pottery found in the lakebed might do more to tell of the tribes who lived in the area than the bones themselves because the human remains are so fragmented. The boats uncovered are relatively intact. They include a steam-powered dredge thought to have been used to dig a canal; a steamship whose remains are scattered across a mile and a half; a wooden motorized canoe; an early 1900s catfishing boat with a large one-cylinder engine; and a fifth boat so badly decayed it is hard to determine its purpose.

(article reprinted from Orlando Sentinel, June 5, 2007)

## Manatee Protection System

Approximately, one-third of the 170 manatee deaths occurring this year in Florida have been due to natural causes. Each year, however, many injuries and deaths are attributed to human-related causes. Manatees are regularly involved in motor boat collisions, and a few are killed while passing through water control structures, such as flood and lock gates. To help reduce such accidents the Corps has fitted some its navigation locks with manatee protection screens and installed acoustic arrays at others, which rely on sensors to indicate the presence of manatees.

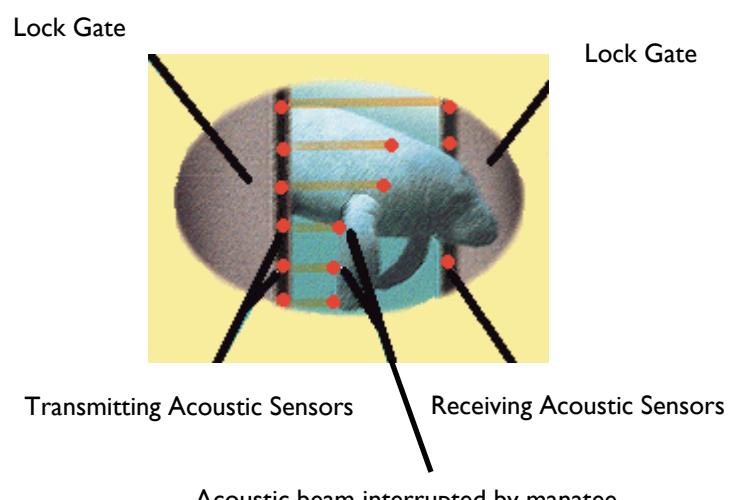


Protective screening serves as a barrier to prevent manatees from becoming lodged in the gate apparatus.



Manatee protection screens (close up)

### Acoustic Array Manatee Protection System



An acoustic array is a sound transmitting and receiving system. When a manatee enters into the path of a sound transmitter it prevents the sound wave from reaching the receiver. Immediately the system recognizes the breached signal and automatically stops the current direction of the lock gates and reverses the movement to allow the safe passage of manatees.

The South Florida Operations Office is currently installing an Acoustic Array Manatee Protection System at Ortona Lock. Presently, this technology is functional and in use at Canaveral and St. Lucie Locks.

## Locations of Navigation Locks



## SFOO Celebrates Founder's Day





South Florida Operations Office  
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Clewiston, FL 33440

Phone: 863-983-8101  
Fax: 863-983-8579



Taken by Adam Tarplee at  
St. Lucie Canal

## Help Wanted:

If you would like to contribute ideas, information or photographs to the BigWater News email or phone Michael Boles – newsletter editor:

[michael.e.boles@usace.army.mil](mailto:michael.e.boles@usace.army.mil)  
863-983-8101 x222



Corps of Engineers

## Corps and USGS Hold Cooperative Navigation Exercise

On June 6-8, 2007 the South Florida Operations Office hosted and conducted a 24-hour Motorboat Licensing Courses for eight United States Geological Survey (USGS) employees. The course was held at the W.P. Franklin Lock Recreation Area and is required training for USGS employees to operate vessels less than 26 feet in length.

Instructors for the course were T. Clinton Coates from the USGS and Art Ruebenson, Robert Schnell and Adam Tarplee from the South Florida Operations Office. USGS also furnished boats for the maneuvering course and fire extinguishers for the fire suppression exercise.



Classroom instruction topics covered: boat orientation, required safety equipment, trailering, aids to navigation and rules of the road.

Practical course work involved: a 100-yard swim test while wearing a personal flotation device (PFD), emergency boat based rescue procedures, trailering, launching and docking of vessels, towing procedures, boat and trailer maintenance, marlinespike, fire suppression and operating vessels on four different maneuvering courses.



Lieutenant General Van Antwerp – Chief of Engineers – poses with staff after spending the day touring SFOO facilities.